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FIRST REPORT

OF THE

BOARD OF DIRECTORS,

OF THE

MECHANICS' INSTITUTE,

OF THE

CITY OF NEW-YORK.

OCTOBER, 1831.

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*To the Members of the Mechanics' Institute of the
City of New-York.*

The Board of Directors of the said Institute, Respectfully Report—

THAT this Institution was established for the purpose of instructing Mechanics and others in popular and useful science, and its application to the arts and manufactures, by means of lectures, apparatus, models of machinery, a museum and a library.

The attainment of objects so various, comprehensive and important, is undoubtedly beyond the means and facilities of any individual, or indeed of any few persons, however they may be endowed with fortune and genius, and whatever may be the extent of their enterprize and activity. In order to ensure success in undertakings of this nature, the co-operation of a large mass of information and talent, and an extensive association embracing not only the disposition, but the ability to promote those objects, are essentially necessary,—of both, and all of these, your Board flatter themselves there will be no want in this Institution.

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Improvement in the mechanic arts, and the sciences connected therewith, has always been regarded a great desideratum in all civilized communities, and has excited the attention of the ablest and best men. In the year 1795, Sir John Sinclair published to the world, his "Plan of an Agreement, among the Powers in Europe and the United States of America, for the purpose of rewarding discoveries of general benefit to society." These high authorities, on whom this proposition was intended to operate, were however, so much engaged in settling those matters connected with the destruction of mankind, that they could find no time for attention to this matter, which had for its object, their benefit. It therefore behoves those individuals, who wish to leave the world in a better state than they found it, by a particular attention to, and an encouragement of those arts and sciences to which mankind owe their prosperity, to associate together, for the purpose of diffusing information among themselves and thro' the community in which they live; and the more particularly so, as the funds appropriated by government for literary purposes, are applied to the support of universities and colleges, which although excellent in themselves, yet afford but little, if any assistance, to the mechanics and artizans of our country. In making these remarks, this Board do not wish to be understood as complaining of the distribution of the public monies towards the support of those literary institutions, which they regard as valuable auxiliaries in the diffusion of knowledge, as far as they go; but merely wish to call the public notice to the wants of a class of citizens, who, they may be allowed to say, are not among the least deserving objects of the public bounty, and who have it not in their power to avail themselves of the advantages held out by the colleges and universities now in existence.

Associations for the promotion of useful knowledge, have always been found highly advantageous to the communities in which they have been established. Men united together, and frequently meeting for the purpose of advancing science and the arts, may, and do oft times suggest such hints to one another, as may be improved to very important ends. While

on this subject, the Board would particularly recommend to the notice of the Institute, a proposition made by an intelligent and worthy fellow-member, which they think deserving of consideration, and as promising, if properly attended to, very advantageous results. It is this: Inasmuch as it is frequently found that many very intelligent men can write much better than they can speak, and in consequence of which, valuable ideas are frequently lost to the world, from the want of a power of ready utterance; and are lost in others, from a natural timidity in addressing an assemblage; that to avoid all these difficulties, and to preserve to society, what may be of great utility: “a book be provided for the purpose of affording the members an opportunity of entering any remarks or suggestions they may wish to submit to the consideration of the Directors or the Society, and this book to be before the Directors at every meeting.”

This proposition, as before stated, is viewed by the Directors as of the utmost importance, inasmuch as it affords an opportunity to men of ingenuity and modesty, to express their ideas, and to give them to the world under the patronage of a scientific association; and as it may also be of eminent service in exciting a spirit of emulation and enkindling those sparks of genius which otherwise might forever be concealed.

In this age of the world, it can scarcely be requisite to adduce argument to prove the necessity and usefulness of institutions like this, and their certainty of success when properly managed. Eminent instances of their beneficial effects are to be seen in the French Academy, the Royal Society, and the Society for the encouragement of Arts, Manufactures and Commerce in London, and many others of a similar nature in other parts of Europe; and we are not without instances in our own country, as will appear by referring to the American Philosophical Society, the Academy of Arts and Sciences, the Franklin Institute and several similar associations. And even, to use some remarks of the late Governor Clinton, in his address delivered at Schenectady—without referring to the inducements for exertion arising from the successful enterprizes of our citizens at home, it must be sufficient to animate you to active industry, by pointing out the harvest of profit and glory

which has been reaped abroad. West, of Pennsylvania, has delighted and astonished the world, by his pictorial performances—Murray, of New-York, has written the best work on English Grammar—Perkins, of Massachusetts, is now pushing that wonderful invention, the Steam Engine, to the utmost verge of perfection. Many of our enterprising youth are now traversing sea and land in the pursuit of science—some are seated in the celebrated schools of medicine and natural science—some are in the great cities examining the fabrics of art, the machinery and processes of manufacturing, the movements and evolutions of commerce, and the complex relations of political economy—others are moving in various directions, improving their information in agriculture, their taste in the fine arts, and adding to their knowledge of men and things.

As soon as convenient after the election of your Board of Directors, they proceeded to organize themselves, by the adoption of rules and regulations for their government, and by dividing themselves into departments on the several subjects of lectures and lecturers, finance, and the library, museum and reading-room, in order to afford the greater facility in the transaction of all the business of the Institute, which might come before them ; and during the short period of the existence of this Institution, much has been done to give it a permanent character. It is now completely organized as to its officers and regulations ; and unless some unforeseen event happens to change its prospects, there is every reason to believe that it will be a powerful and useful Institution, wielding an extensive and salutary influence over a large and respectable portion of the community, long after all of us shall have left this stage of action.

Ever since the establishment of this Institute, it has been a very desirable project to obtain some suitable and permanent place for the meetings of the association, and for the delivery of the contemplated courses of lectures. A committee was appointed to select a proper location, and they on our behalf petitioned the Corporation of this city, for the use of some room in the public buildings. On this petition, a vote has been passed in the two Boards of Aldermen, and Assistant

Aldermen, giving to this Institute, for the above purposes, the use of the rooms formerly occupied by the Marine Court, in the basement of the City Hall, at the same time regretting that they had no better apartments to offer us. On the part of this Board of Directors, there is a grateful sense of the friendly disposition manifested in this matter, by the Corporation towards this Institute; and the Directors think that those rooms can be made to meet all our present wants. They would, however, suggest that we should all bear in mind, that if we wish to be as useful as we can be, we must have a building of our own, calculated for our own purposes: this can never be effected, without the personal exertions of every individual member, in soliciting and procuring subscribers to the Institute.

The Directors have been anxious to commence immediately the usefulness of this association, by the establishment of a popular course of lectures on Mechanical and Chemical Philosophy, they deeming that to be one of the principle means, by which the objects of our Institution may be attained. The matter having been referred to the department on lectures and lecturers, they applied to Professor Steele, who is advantageously known to us all as an able and learned lecturer, for information as to the establishment of such a course of lectures and its probable cost.

The Professor, who was among the first to propose the formation of this Institute, after stating in his communication to the Committee, that he was aware in the present state of the Society, high prices could not be given, and that impressed with this idea, he would endeavor to deliver the first course of lectures at as low a price as possible. He then proposes that the number of lectures should be fifty—one half on Mechanical Philosophy, the other half on Chemical Philosophy, he to find an operator, apparatus, models, and materials for experimenting, and that the Institute furnish a convenient place near the lecture-room for his apparatus, &c., and that the price for the course be five hundred dollars, to be paid either by instalments or at the end of the course as may be found convenient. By a provision in the constitution, the Board have not the authority to close this agreement with Professor

Steele, without submitting the same to the Institute, and having the same ratified by it. The Professor's knowledge and abilities require no recommendation from this Board—but the directors would say that they view it as some importance to the Institute, that a man of his acknowledged talents should be employed as their lecturer; very much depends on first appearances, and there is no doubt but that many flourishing institutions in this and other countries owe their success to a particular attention to this point—your Board would therefore recommend that they be authorised by you to engage Mr. Steele, as the lecturer on such terms and in such manner as they may think proper, not exceeding those proposed by him to the committee.

While speaking of the lectures, the Board would observe that the subject of “Mutual instruction” has been brought before them, and in several shapes has been made the subject matter of frequent conversation. They now lay it before the Institute more with the hope that its presence may excite reflection, than with a view to carry it immediately into operation—the directors however believe that as soon as we become permanently located, if the members enter into this matter with spirit, a great deal of good will be the result. The proposition made to the Board was “that it should be the duty of the directors on the discovery of talent, appropriate to any science or art, to prevail on such persons to take charge of a small class of such members as present themselves for such purpose—the directors aiding such purpose by furnishing books, apparatus, accommodations for meeting, &c., and that these class exercises being rather of a private nature, should be under the direction of its leader;” and also, “that if practicable, the directors should organize different classes in the different branches of Natural Philosophy, say Mechanics, Electricity, Pneumatics, Chemistry, &c. &c., and that each of these classes shall be kept separate and distinct in their appropriate meetings.”

That these propositions are feasible in their operation, and attended with the most beneficial effects to those concerned, this Board have the experience of similar associations in

Europe, and indeed in our own country to warrant them in asserting. They will in this instance, content themselves with adducing the single case of the mutual instruction association of the Glasgow Gas Light company. The following account of the organization and mode of proceeding by this association, is to be found in address to the proprietors of large manufactories by D. Bannatyne, Esq.—after some introductory matter, he proceeds—“The Gas Light chartered company, of this city (Glasgow,) in which I hold a very considerable interest, and of whose committee of direction, I have for some years past been a member; employs constantly between sixty and seventy men in the works. Twelve of these men are mechanics, and the others furnace men and common laborers of different descriptions, forming, altogether, a community not very promising as a body to be incited to adopt measures for their own intellectual improvement.” Notwithstanding all these apparent disadvantages, the association was formed, a library was collected, an atlas and pair of globes purchased, and a committee for the management of their concerns appointed. “The individuals of the committee have come under an agreement to give in rotation, a lecture either in Chemistry or Mechanics every Thursday evening; taking Murray for their text book in the one, and Ferguson in the other. They intimate a fortnight before to the person whose turn it is, that he is to lecture from such a page to such a page of one of these authors. He has, in consequence, these fourteen days to make himself acquainted with his subject; and he is authorized to claim, during that period, the assistance of every member of the society, in preparing the Chemical experiments, or making the little models of machines for illustrating his discourse. It is a remarkable circumstance in this unique process of instruction, that there has been no backwardness found on the part of any of the individuals to undertake to lecture in his turn, nor the slightest diffidence exhibited in the execution. This I can only attribute to its being set about without pretension or affectation of knowledge, and merely as a means of mutual improvement. And nothing, I conceive, could have been better devised for accomplishing this end. Indeed I might

with confidence say, that under this simple system of mutual instruction, which has grown out of the train of circumstances above mentioned, these persons, many of whom, when they joined the society, were in a state of complete ignorance, have acquired ideas, and more perfect knowledge of the subjects which have been brought under their consideration, than would be found to have been attained by any similar number of students, who had been attending the courses of lectures given in the usual way, by the most approved lecturers." With such experience before us, can this system of mutual instruction be for a moment regarded by us as visionary ?

Before dismissing the subject of mutual instruction, the directors would remark, that the members of the Franklin Institute in Philadelphia, have found great advantage in the discussion of mechanical and scientific questions at their monthly meetings. As it is proposed to have monthly meetings of this Institute, the Board suggest that a similar practice be adopted by us. It might be done in this manner. Any member may offer a question, mechanical or scientific, to the consideration of the Institute, if they accept it, the President shall declare it to be the subject of discussion, at the next monthly meeting, and during the interval, any of the members knowing the subject, may prepare themselves to take part in the debate, which will unquestionably be a very interesting and a very profitable mode of disposing of part of the time of our monthly meetings, or of any other evening which may be appropriated for that purpose.

Another mode of conveying knowledge has also been made a subject of consideration by this Board, viz :—voluntary lectures, on such subjects connected with general science as the lecturer may select. On this subject, it may be remarked that our kindred association, the Franklin Institute, having been at their first organization placed in a similar situation with ourselves, that is to say, poor in purse, though rich in spirit, they resorted to these voluntary lectures which resulted very much to their satisfaction, and were very instrumental in placing them on the proud eminence, which they now occupy among the Literary and Scientific Institutions, of our country.

Believing that there are many distinguished men in the community, who would readily accord their assistance to an Institution, which promises so much benefit to a very important class of citizens as this, your Board respectfully invite them to assist us in our undertaking, and in making this appeal to the voluntary aid of those gentlemen, the Board feel confident that it will not be made in vain.

In immediate connection with our lectures, are the library and museum. These were justly considered of so much importance by the framers of our constitution, as to induce them to place an appeal to the public on the face of that instrument, in the following language: "The Institute will gratefully receive donations in money, books, apparatus, models of machinery, drawings, or natural and artificial curiosities, which donations together with the names of the donors, shall be registered in the books of the Society, kept for that purpose."

It is impossible for us to make the formation of a library for an institution of this description, too important a matter. Great exertions should be made to procure a collection of such works as will facilitate our enquiries after knowledge. De Witt Clinton, than whom no man labored more for the real good of his country, in speaking of the benefits to be derived from an attention to the means of education, observed that "equally striking are the benefits of the extensive libraries, where in the words of the immortal Bacon, the relics of the ancient saints of literature, full of true virtue and without delusion or imposture; and the oblations and offerings of the votaries of learning in other times are preserved." The consideration of this important subject, was referred by the Directors to their department on the library and museum, who after due consideration of the same, reported an address to the inhabitants of the city. In which they say that "there is no truth more universally acknowledged, nor one more conclusively exemplified by experience, than that in the same proportion as the producing classes of a country are intelligent, in that proportion are they virtuous and important members of society. And that experience has demonstrated

that nothing more materially tends to produce those beneficial effects than the acquisition of knowledge in the arts and sciences." That in order to attain this important end, "they make this appeal to their fellow citizens for the donation or loan of books to establish a library for the use and instruction of those who attend the lectures;" and that they "feel confident that this appeal will be responded to by the same spirit of liberality which has so amply contributed to the Mercantile and other public libraries in this city."

The most extensive libraries now in existence, have had their origin in small beginnings, and not unfrequently in the unwearied exertions of one or two public spirited individuals. The "Advocates Library" in Edinburgh, Scotland, at this time one of the most celebrated and valuable libraries in the world, was founded in the 17th century by Sir George McKenzie. Like other establishments of this nature, its commencement was inconsiderable; its funds were uncertain; and its progress in utility was slow. But frequent contributions augmented the number of volumes; and a settled fund was, after great exertion, at length established; and the result has been most triumphant for the cause of science and literature. Such instances should encourage us to do likewise.

Connected with most public libraries is a reading room, and it has been agitated before this Board to open a Reading Room for the use of our members. The Board viewing this room as a means of inducing the members to associate together more frequently than they would otherwise, and thus tend to the diffusion of information as well by reading as by the interchange of ideas, have thought it a proper subject to be laid before the Institute for their consideration. The proposition is to appropriate one room peculiarly for reading, and another for conversation. As to the rules and regulations requisite for the government of those rooms, the Board think they cannot do better than offer to the Institute those which have been tested by experience in the Franklin Institute of Philadelphia, which are as follows: The Reading Room to be open daily from 3 to 10 o'clock, P. M. No conversation permitted in the reading room, but a room appropriated for

that purpose. Members may introduce strangers to the reading room who have free access for one month. A book kept on the table of the reading room for the registering of donations, which is subject to the inspection of the members.

The Directors have now touched upon the principal objects connected with this Institution, and the subjects to which our attention has been particularly directed. There is, however, yet another subject to which the Directors would call the attention of the Institute; and that not of the least importance, as on its flourishing state, must in a great measure, depend the success of all our operations, viz : the financial concerns of this Institute. The Committee who have the especial supervision of this branch in their Report to this Board, under the date of Sept. 19, 1831, state that there were then 112 members of this Institute who paid their initiation fees amounting to \$224; of this sum had been expended by the Treasurer for the expenses necessarily incident to the organization of this association, the sum of \$49 42, leaving a balance in the hands of the Treasurer unappropriated, amounting to \$174 58, and that there was now due the Institute from its members for semi-annual dues, \$224, making in all an available sum of \$398 58. That they were of opinion that the Institute might reasonably anticipate an accession of one hundred members in a short period. In relation to this anticipation, this Board think their finance committee very reasonable in their calculation. It is the opinion of the Directors that with a moderate degree of personal exertion on the part of the members of this Institute, four times that number might be added within the space of three months. By the 4th article of the 5th section of the constitution of this Institute, it is provided that "in order to make the Institution as generally useful as possible, any person shall be entitled to the privilege of reading from the library, and attending the lectures, or any other course of instruction that may be given in the Institution, for one year, on paying such sum as the Society shall determine." In the view of this article the finance committee recommended that the charge for a course of ten lectures to those adults who are not members be \$1 50, and for the same number of lectures

to apprentices and other minors \$1, and for single lectures 25 cents, and they also reported that they were of opinion that the money received for single lectures would defray the incidental expenses of the lecture room, such as lights, fires, &c.

It has been thought by some of the members that the sum of \$50 to constitute a life member is too large, and that we would probably find it to our advantage to reduce it one half, say \$25, which is the amount required for that purpose in the Franklin Institute. All will agree that it is desirable to have as many life members in our association as possible, if for no other reason than that it gives the Institution an additional permanency. With the view of having the matter fairly determined on, this Board lay before this association a copy of the article from the constitution of the Franklin Institute on this subject, which is as follows : "The payment of \$25 shall constitute a member for life, with an exemption from all annual payments."

This Board feel as if they could not leave the general subject matter of this society, without reiterating its importance, and without urging upon every individual, if he places any value on the Institution, the necessity of exertion to ensure complete success. Every one should work as if it depended on himself personally, whether this association sunk or rose. It is a matter worthy of such an exertion : a particular attention to the diffusion of knowledge, and to the support of Institutions of this character, is the more important, because, to use the language of Judge Story,—“in our country, the highest man is not *above* the people ; the humblest is not *below* the people. If the rich may be said to have additional protection, they have not additional power, nor does wealth here form a paramount distinction of families. Those who are wealthy to-day, pass to the tomb, and their children divide their estates. Property thus is divided quite as fast as it accumulates. No family can without its own exertions, stand erect for a long time, under our statute of descents and distributions. It silently and quietly dissolves the mass heaped up by the toil and diligence of a long life of enterprise and industry.

Property is continually changing like the waves of the sea—one wave rises, and is soon swallowed up in the vast abyss, and seen no more. Another rises, and having reached its destined limits, fall gently away, and is succeeded by yet another, which in its turn, breaks and dies gently on the shore. The richest man amongst us may be brought down to the humblest level ; and the child, with scarcely clothes to cover his nakedness, may rise to the highest office in our government ; and the poor man, while he rocks his infant on his knees, may justly indulge the consolation, that if he possesses talents and virtue, there is no office beyond the reach of his honorable ambition.”

Of how much importance therefore are all Institutions which propose qualifying mankind, for any situation or any office which they may be called to fill, in a country where they are excluded from none, even the highest ? Can any reasonable degree of exertion for the support of such Institutions, be esteemed too great a burden ? Certainly not by those who place a proper estimate on the value of knowledge.

In taking this view of the subject, and in hazarding those anticipations of the future which we have, we think we have been careful not to indulge in exaggerated estimates. We have, it is true, some difficulties to surmount ; but a Franklin, a Rittenhouse, and a host of others, the master spirits of the land bid us follow on, and assure us by their examples that in perseverance we shall find success.

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